IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

VENKEE COMMUNICATIONS, LLC, Plaintiff, v. CAMBIUM NETWORKS CORPORATION, and CAMBIUM NETWORKS, LTD., Defendant.	Civil Action No. 6:19-cv-548 **JURY TRIAL DEMANDED**

COMPLAINT

Plaintiff VenKee Communications, LLC ("Plaintiff" or "VenKee") hereby brings this Complaint seeking damages and other relief for patent infringement, and demanding trial by jury, and alleges as follows:

THE PARTIES

1. VenKee is a Texas limited liability company having a principal place of business at 5068 West Plano Parkway, Suite 300, Plano, Texas 75093.

2. Defendant Cambium Networks Corporation is a corporation organized under the laws of the Cayman Islands with a principal place of business at 3800 Golf Road, Suite 360, Rolling Meadows, Illinois 60008.

3. Defendant Cambium Networks, Ltd. is a British limited liability company with its principal place of business in England and, upon information and belief, also has a place of business at 3800 Golf Road, Suite 360, Rolling Meadows, Illinois 60008.

4. Upon information and belief, Cambium Networks, Ltd. is a wholly-owned subsidiary of, and is directed and controlled by, Cambium Networks Corporation, and the acts that

form the basis of this Complaint are performed in the United States, including throughout this District, by and through Cambium Networks, Ltd. and its partners and subsidiaries acting by, on behalf, and/or under the direction of Cambium Networks Corporation.

5. Upon information and belief and as it relates to the acts that form the basis of this Complaint, Cambium Networks Corporation and Cambium Networks, Ltd. identify themselves collectively and without distinction as "Cambium" or "Cambium Networks." Defendants are thus referred to collectively herein as "Defendants" or "Cambium."

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, Title 35 of the United States Code, 35 U.S.C. § 271 et seq. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 1338(a).

7. The Court has personal jurisdiction over Cambium because, upon information and belief, each Defendant conducts substantial business in the forum, directly and/or through intermediaries, including: (i) at least a portion of the infringing activity alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to persons in this District.

8. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), (c), (d) and 1400(b). Upon information and belief, Defendants have individually and collectively committed substantial acts of infringement in this District. Moreover, Cambium Corporation resides in the Cayman Islands, where it is incorporated, and Cambium Networks, Ltd. resides in England, where it is incorporated. Each is therefore an alien that can be sued in any district in the U.S.

THE PATENT-IN-SUIT

9. U.S. Patent 7,916,684 entitled "Wireless Communication Network Providing Communication Between Mobile Devices and Access Points" was duly and lawfully issued by the U.S. Patent and Trademark Office on March 29, 2011 from Application No. 10/985,589, filed on November 11, 2004. A true and correct copy of U.S. Patent 7,916,684 as issued is attached hereto as Exhibit A.

10. U.S. Patent 7,916,684 was subsequently the subject of three *ex parte* reexaminations, including *Ex Parte* Reexamination 90/013,324 (the "'324 Reexam"). *Ex Parte* Reexamination takes a fresh look at the novelty and nonobviousness of all the subject patent claims without presuming validity. As of September 30, 2018, less than 15,000 of the approximately 10,000,000 U.S. patent issued over time have ever been reexamined. *See* https://www.uspto.gov/sites/default/files/documents/ex_parte_historical_stats_roll_up.pdf (last accessed August 27, 2019). VenKee's Patent was therefore subject to more extensive and robust examination than usual.

11. Following these years of additional examination, the Reexamination Certificate for the '324 Reexam was duly and lawfully issued by the U.S. Patent and Trademark Office on January 8, 2016. A true and correct copy of the '324 Reexam Certification is attached hereto as Exhibit B and reflects the final patent claims including all three reexaminations.

12. By and through the *ex parte* reexaminations, claims 1, 6, 7, 13 and 19 of U.S. Patent 7,916,684 were determined to be patentable as amended, and claims 5, 11, 17 and 20, which each depend from an amended claim, were determined to be patentable. *See* Exhibit B, Col. 1:15-18. Claims 2-4, 8-10, 12, 14-16 and 18 were not reexamined. *Id.*, Col. 1:19. U.S. Patent 7,916,684 and the '324 Reexam Certificate are referred to collectively herein as "the '684 Patent."

13. The ’684 Patent is directed to a wireless communication network that includes a plurality of access points configured as local access points that operate at one of a set of frequencies and within a communication range. The local access points may communicate with a mobile device within the local access point communication range. The wireless network further includes an access point configured as a master access point to communicate with each of the local access points at a frequency that is outside the set of frequencies of the local access points.

14. The ’684 Patent identifies and addresses problems in the prior art. Specifically, the ’684 Patent teaches that, in prior art networks, “the effective throughput of the network is substantially reduced as the user’s message travels over multiple ‘hops’ to get to the wired backhaul” and that “the effective network data rate drops rapidly as the number of hops increases.” Exhibit A, Col. 1:43-48.

15. The ’684 Patent further identifies prior art problems including a “lack of frequency planning and channel allocation to separate the bandwidth of the AP-mobile messages and the backhaul messages between access points that carry the message back to the wired network.” Exhibit A, Col. 1:48-51.

16. The ’684 Patent further identifies prior art problems including that “each access point has a single radio that is used to communicate with both the mobile users and the other access points in the network. The lack of available bandwidth for backhaul and frequency planning greatly limits the scalability of this mesh network architecture. As the mesh network is implemented over larger areas, a larger percentage of the total capacity (e.g., backhaul/mobile capacity) is used to transmit updates to the network routing status.” Exhibit A, Col. 1:52-59.The ’684 Patent teaches technical solutions to these prior art problems, including using an “access point configured as a master access point to communicate with each of the plurality of local access points

at a frequency that is outside the set of frequencies of the local access points." Exhibit A, Col. 2:7-9.

17. The '684 Patent further teaches the technical solution of "having a master communication channel that is distinct from the local communication channels." Exhibit A, Col. 2:16-19.

18. The '684 Patent further teaches the technical solution including "a first communication device (e.g., a first radio) corresponding to each of the local access points to communicate between the local access points and mobile devices . . . using the local communication channels" and "a second communication device (e.g., a second radio) corresponding to each of the local access points to communicate between each of the local access points and the master access point . . . using the master communication channel." Exhibit A, Col. 2:20-30. The addition of a master access point communicating on a separate frequency addresses the prior art problems identified by the '684 patent, including regarding network scalability, limited backhaul bandwidth, and effective frequency planning.

19. VenKee is the owner by assignment of all right, title and interest in and to the '684 Patent.

THE ACCUSED INSTRUMENTALITIES

20. Cambium manufactures, uses, sells, offers for sale and/or imports wireless communication network products, including the cnPilot products, such as the cnPilot e500 (the "Accused Instrumentalities"). The Accused Instrumentalities include the cnPilot products, related network infrastructure, and any substantially similar Cambium networks and devices.

21. A combination of cnPilot access points forms a communication cell. Each cnPilot access point uses wireless protocols to communicate with one or more mobile client devices and with other cnPilot access points.

22. The cnPilot access points use a different set of frequencies to communicate with mobile devices than to communicate with each other.

COUNT I –INFRINGEMENT OF THE '684 PATENT

23. VenKee repeats and realleges the allegations of all foregoing Paragraphs as if fully set forth herein.

24. Cambium has infringed and continues to infringe one or more claims of the '684 Patent, including at least claim 1 by making, using, selling and/or offering for sale, within this District and elsewhere in the United States, the Accused Instrumentalities.

25. Claim 1 of the '684 Patent recites:

> A wireless network using a common wireless communications protocol comprising:
>
> (a) a plurality of communications cells configured to use the common wireless communications protocol, each communications cell comprising
>
> (b) a plurality of local access points arranged to define a given communications cell, each local access point being configured to communicate with a mobile device within a respective wireless coverage area using the common wireless communications protocol and at a respective frequency from among a set of local access point frequencies, and
>
> (c) a master access point positioned within the given communications cell and configured to
>
> (d) simultaneously communicate with a mobile device within a respective wireless coverage area of the given communications cell using the common wireless communications protocol and at a respective frequency from among the set of local access point frequencies,
>
> (e) communicate with each local access point within the given communications cell also using the common wireless communications protocol and at a frequency

different from the set of frequencies of the set of local access point frequencies, and

(f) provide either a wired or wireless backhaul communications link wherein each of the local access points comprises a first radio and a second radio, the first radio configured to communicate with the mobile device and the second radio configured to communicate simultaneously with the master access point, and each of the first radios is configured at a different frequency within the set of local access point frequencies and each of the second radios is configured at the frequency different from the set of local access point frequencies,

(g) wherein simultaneous wireless communication occurs between (i) mobile devices and local access points, and (ii) local access points and the master access point using the different frequencies,

(h) wherein said master access points of the plurality of communications cells have alternating wired and wireless backhaul communications links.

26. The cnPilot system is a multiple access point wireless network that is managed centrally and uses common access protocols, such as 802.11 wireless protocols (*see* Exhibit C, cnPilot e500 Outdoor Omni Specification Sheet (2019) ("cnPilot Spec Sheet") at 1-2; Exhibit D, cnPilot Enterprise Wi-Fi Access Points User Guide, System Release 3.11 (May 2019) ("cnPilot User Guide") at 46-47; Exhibit E, cnPilot Cloud-Managed Wi-Fi data sheet (2018) ("cnPilot Data Sheet") at 2) and comprises:

(a) Multiple cells configured to use the common wireless communications protocol, such as 802.11 (*see* Exhibit C, cnPilot Spec Sheet; Exhibit F, cnPilot 5th Utility Case Study (April 10, 2019) ("cnPilot Case Study") at 2; *see also* Exhibit G, "Mesh Network – Cambium Networks Community," http://community.cambiumnetworks.com/t5/cnPilot-E-Series-Enterprise-APs/Mesh-Network/td-p/102747) (last accessed September 17, 2019);

(b) Each cell includes a plurality of access points for local access within the cell called the "non-root-AP/client," which uses a common wireless protocol, such as 802.11, and is configured to communicate with mobile devices such as laptops and cell phones within the reception and transmission range of the given non-root-AP/client at a specific frequency from a

set of frequencies, such as those in the 2.4GHz frequency band (*see* Exhibit C, cnPilot Spec Sheet; Exhibit F, cnPilot Case Study at 2; *see also* Exhibit G;

(c) A "Master AP" which is a "proprietary mode" that "allows one of the cnPilot devices to act as controller" or a wired "root-AP/Bridge" positioned within a communications cell that acts as a master access point for the cnPilot nodes (*see* Exhibit D, cnPilot User Guide at 24, 140; Exhibit F, cnPilot Case Study at 2; Exhibit C, cnPilot Spec Sheet; *see also* Exhibit G);

(d) The Master AP or root-AP/Bridge simultaneously communicates with local mobile client devices at a specific frequency from a set of frequencies, such as those available in the 2.4GHz frequency band, and other cnPilot nodes (non-root-AP/clients) on the network using 802.11 or other common communications protocols (*see* Exhibit D, cnPilot User Guide at 24; Exhibit C, cnPilot Spec Sheet);

(e) The Master AP or root-AP/Bridge communicates over a frequency from a set of frequencies, such as those in the 5GHz frequency band, that is different from the frequencies of the non-root-AP/clients, such as those in the 2.4GHz frequency band, using 802.11 or other common wireless communications protocols (*see* Exhibit D, cnPilot User Guide at 25; Exhibit C, cnPilot Spec Sheet at 1; *see also* Exhibit H, "cnPilot e500 Enterprise Outdoor Wi-Fi Cambium Networks," https://www.cambiumnetworks.com/products/wifi/cnpilot-e500-enterprise-outdoor/ (last accessed September 17, 2019); Exhibit G);

(f) The backhaul communication to the network can be either wired (*e.g.*, through the root-AP/Bridge) or wireless (e.g., programmed Master AP), and each cnPilot device includes two radios, one configured to communicate with users over a given frequency, such as a frequency from those in the 2.4GHz frequency band, and a second radio configured to

communicate with the other cnPilot devices/access points over a different frequency, such as a frequency from those in the 5GHz frequency band (*see* Exhibit E, cnPilot Data Sheet at 2; Exhibit D, cnPilot User Guide at 46, 103, 109); *see also* Exhibit H; Exhibit G; Exhibit I, "Mesh feature FAQs - Cambium Networks Community," http://community.cambiumnetworks.com/t5/cnPilot-E-Series-Enterprise-APs/Mesh-feature-FAQs/m-p/56242#U56242) (last accessed September 17, 2019);

(g) The cnPilot devices simultaneously communicate with mobile devices over a given frequency, such as a frequency from those in the 2.4GHz frequency band, and with the root-AP/Bridge, Master AP or other cnPilot devices over a different frequency, such as a frequency from those in the 5GHz frequency band (*see* Exhibit D, cnPilot User Guide at 46; *see also* Exhibit I);

(h) Either a wireless Master AP or a wired root-AP/Bridge can act as the master access point to carry backhaul communications and the cnPilot devices can alternate between wireless and wired backhaul communications (*see* Exhibit D, cnPilot User Guide at 103, 109; Exhibit E, cnPilot Data Sheet at 1; Exhibit F, cnPilot Case Study at 2; *see also* Exhibit G).

27. The foregoing structure, function and operation of the Accused Instrumentalities meets all limitations of at least claim 1 of the '684 Patent.

28. Cambium's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without VenKee's license or authorization.

29. Cambium's unauthorized actions therefore constitute direct infringement of VenKee's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and VenKee is entitled to recover from Cambium the damages sustained as a result of Cambium's infringement of the '684 Patent in an amount to be determined at trial, which amount

shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

30. Cambium has had actual knowledge of the '684 Patent since at least the service of this Complaint.

31. At least as early as the service of this Complaint, Cambium indirectly infringes the '684 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of this Complaint, Cambium has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '684 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Cambium necessarily infringes the '684 Patent.

32. At least as of the service of this Complaint, Cambium also indirectly infringes the '684 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Cambium is aware, at least as of the service of this Complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '684 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of this Complaint, Cambium has knowingly and intentionally contributed to direct infringement by its customers of

one or more claims of the '684 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Cambium necessarily infringes the '684 Patent.

33. Cambium's infringement of the '684 Patent has injured VenKee and VenKee is entitled to recover damages from Cambium (or any successor entity to Cambium).

JURY DEMAND

VenKee hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff VenKee Communications, LLC requests that this Court enter judgment against Cambium Networks Corporation and Cambium Networks, Ltd., and any other entity by and through which Defendants make, sell, use, offer for sale or import, or have made, sold, used, offered for sale or imported infringing Accused Instrumentalities as follows:

A. Adjudicating, declaring and entering judgment that Defendants have directly infringed the '684 Patent either literally or under the doctrine of equivalents;

B. Adjudicating, declaring and entering judgment that Defendants have induced infringement and continues to induce infringement of one or more claims of the '684 Patent;

C. Adjudicating, declaring and entering judgment that Defendants have contributed to and continue to contribute to infringement of one or more claims of the '684 Patent;

D. Awarding damages to be paid by Defendants adequate to compensate VenKee for Defendants' past infringement of the '684 Patent and any continuing or future infringement

through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

E. Awarding VenKee pre-judgment and post-judgment interest; and

F. Awarding VenKee such other and further relief at law or in equity as this Court deems just and proper.

Respectfully submitted,

Date: September 20, 2019

\s\ Henning Schmidt

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